REMARKS

Claims 2 and 3 have been canceled, and claims 1 and 23 have been amended. Support for the amendments to claims 1 and 23 is found, inter alia, in original claim 3 and in paragraph [0085] on page 40 of the specification. Claims 1, 4-14, 17 and 23 are presented for further examination.

The rejection of claims 1-14, 17 and 23 under 35 U.S.C. §112, second paragraph, as indefinite because of the term "stringent conditions" is believed obviated by the amendment of claim 1 to incorporate the specific hybridization conditions recited on page 40 of the specification. Reconsideration and withdrawal of the rejection are respectfully traversed.

The rejection of claims 1-14, 17 and 23 under 35 U.S.C. §112, first paragraph, for alleged failure to comply with the description requirement is respectfully traversed.

The specification contains a description of the invention in terms corresponding to the terminology of the claims. (see, *inter alia*, paragraph [0035] on pages 16-17 and paragraph [0051] on page 25). This clearly shows that the applicants conceived the claimed subject matter as part of their invention.

Furthermore, disclosing the detailed structure of each possible variant of a claimed genus is only one way of satisfying the description requirement. The description requirement can also be satisfied by disclosing a base structure and describing possible variations to the base structure such that a person of ordinary skill in the art can envision the structures of the variants. Indeed, this is the basis of the classic Markush claim for chemical substances in which the formula of a base structure is set forth with R-groups representing various possible substituents in various possible locations, and then the possible alternative meanings for the various R-groups are listed. Such claims are routinely held to satisfy the description requirement even though the detailed structure each variant molecule is not explicitly set forth.

As acknowledged in the Office Action, the specification of the instant application discloses in detail the base sequence of a polynucleotide which

encodes PDGF-D. Contrary to the assertion in the Office Action, the specification of the instant application does provide detailed information about the areas of homology with other members of the PDGF family which need to be conserved to retain activity. See, inter alia, Figures 9 and 10 and paragraphs [0038], [0042], [0045], [0046], [0083] and [0180] of the specification. From these passages, a person skilled in the art is informed what portions of the protein sequence should be conserved to retain activity in the molecule and which areas of the molecule may be modified by conservative amino acid substitutions.

It is also well understood by persons of ordinary skill in the art that a conservative substitution is a substitution of one amino acid for another amino acid that has similar properties. Exemplary conservative substitutions within the skill of the art are set out in the following Table A from WO 97/09433.

Table A
Conservative Substitutions

SIDE CHAIN CHARACTERISTIC	AMINO ACID
Aliphatic	
Non-polar	G A P
	I L V
Polar - uncharged	C S T M
	N Q
Polar - charged	D E
	K R
Aromatic	H F W Y
Other	N Q D E

Alternatively, conservative amino acids can be grouped as described in Lehninger, [Biochemistry, Second Edition; Worth Publishers, Inc. NY:NY (1975), pp.71-77] as set out in the following Table B.

Table B
Conservative Substitutions

SIDE CHAIN CHARACTERISTIC	AMINO ACID
Non-polar (hydrophobic)	
A. Aliphatic:	A L I V P
B. Aromatic:	F W
C. Sulfur-containing:	M
D. Borderline:	G
Uncharged-polar	
A. Hydroxyl:	S T Y
B. Amides:	N Q
C. Sulfhydryl:	C
D. Borderline:	G
Positively Charged (Basic):	K R H
Negatively Charged (Acidic):	D E

From this information, it is thus apparent that one skilled in the art can readily envision each of the possible conservative substitutions and thus can envision mutant polynucleotides within the scope of the claim. The process may be tedious, but it involves merely a mechanical application of know principles and does not require any knowledge that is not within the skill of the art.

In addition to the foregoing structural information, the specification also provides a characterization of the functional characteristics of the claimed polynucleotides or of the polypeptides encoded by the claimed polynucleotides. See, *inter alia*, paragraphs [0037] and [0041]. Also disclosed are chemical characteristics such as the ability to form dimmers. See, *inter alia*, paragraphs [0041] and [0048]. References detailing structure/activity relationships are also cited. See paragraph [0178].

It is well established that whether or not each case satisfies the description requirement must be decided on its own facts. Accordingly, the results reached in other cases where the facts are different are not controlling here. Because the description of the present application ***is*** sufficient to enable a

skilled worker to envision mutant polynucleotides within the scope of the claim, the description requirement is satisfied. Reconsideration and withdrawal of the rejection are therefore respectfully requested.

The rejection of claims 1-14, 17 and 23 under 35 U.S.C. §112, first paragraph, for alleged lack of enablement is also respectfully traversed.

Contrary to the assertion in the Office Action, the specification does identify the high homology region which should be conserved to preserve the activity of PDGF-D. See, inter alia, Figures 9 and 10 and paragraphs [0042], [0045], [0046] and [0083]. In addition, the specification does provide detailed instructions as to how to make a mutant polynucleotide with a high probability of PDGF-D activity. See, inter alia, paragraphs [0177], [0178], [0179], [0180] and [0181]. A procedure for routine screening to confirm the activity is also disclosed. See paragraph [0182].

The fact that even a large amount of screening might be necessary does not negate enablement if that screening is merely routine.

> Enablement is not precluded by the necessity for some experimentation such as routine screening. ... The determination of what constitutes undue experimentation in a given case requires the application of a standard of reasonableness, having due regard for the nature of the invention and the state of the art. The test is not merely quantitative, since a considerable amount of experimentation is permissible, if it is merely routine, or if the specification in question provides a reasonable amount of guidance with respect to the direction in which the experimentation should proceed. *In re Wands*, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988) (citations omitted).

Given the guidance of the specification as to the areas of PDGF-D which should be conserved in order to retain activity, the types of conservative substitutions which can be made, the techniques to carry out such site mutations and the routine techniques for screening to confirm the activity of the resulting mutant polynucleotides, applicants submit that under the facts of this case, their

claimed invention is fully enabled by the disclosure of the application in full complicance with the requirements of 35 U.S.C. §112, first paragraph, and reconsideration and withdrawal of the rejection are therefore respectfully requested.

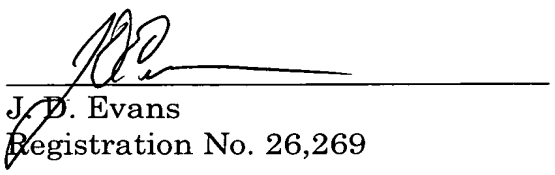
In view of the foregoing, the application is respectfully submitted to be in condition for allowance, and prompt, favorable action thereon is earnestly solicited.

If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned at (202) 624-2845 would be appreciated since this should expedite the prosecution of the application for all concerned.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (Docket #029065.44833C2).

Respectfully submitted,

February 28, 2006



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